

RESPONSE UNDER 37 C.F.R. § 1.116
U.S. Appln. No.: 09/845,356
Attorney Docket No.: Q64324

REMARKS

Claims 25-32 are all the claims pending in the application.

Claims 25-32 have been rejected under 35 U.S.C. § 103(a) for over Baldo et al. in *Appl. Phys. Lett.* 75(1), pp.4-6 (July 5, 1999) or Forrest et al. (US 6,310,360 B1), either reference in view of Egusa et al. (US 5,294,810).

Applicant respectfully traverses the rejection for at least the following reasons.

As the Examiner noted, Baldo et al. and Forrest et al. both fail to teach or fairly suggest using different and/or additional light-emitting materials either in the same layer or in a light-emitting layer separate from the layer comprising the iridium complex. Therefore, there is no *prima facie* case of obviousness based on Baldo et al. or Forrest et al.

Egusa et al. merely discloses that the light-emission intensities of red, green, and blue can be controlled, thereby efficiently obtaining white light emission in the same layer (c.26, 1.25-28). It is noted that Egusa et al. disclose that a device having a blue emitting agent and a yellow emitting agent in a different layer utilizing high biasing voltage emits white light (c.20, 1.57-61).

However, Egusa et al. does not disclose the use of red, green and blue light-emitting materials to obtain white light emission. The Examiner has not provided any explanation to support a conclusion that "the light-emission intensities of red, green, and blue" as described in Egusa et al. equate "red, green and blue light-emitting materials."

Accordingly, Applicant respectfully submits that there would not have been any motivation to modify the light-emitting device in Baldo et al. or Forrest et al. by adding other light-emitting materials to obtain white-light emission, in light of the disclosure of Egusa et al.

RESPONSE UNDER 37 C.F.R. § 1.116
U.S. Appln. No.: 09/845,356
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Further, assuming *arguendo* that there might be motivation to combine the references, Applicants respectfully submit that the combinations would not result in the white light-emitting device of the present invention.

Specifically, the Examiner indicated that Baldo's device comprises CBP doped with Ir(ppy)₃, a single light-emitting layer containing green and blue light-emitting materials. However, Baldo clearly describes that blue emission is negligible (Abstract and p.6, left column, 2nd paragraph) as to get efficient transfer. That is, the use of CBP in Baldo et al. is different from the use of CBP as a blue light-emitting material as proposed by the Examiner.

Therefore, even if one of ordinary skill in the art might be motivated to add a red light-emitting material in the Baldo's device which in fact emits green light only (see Figure 4), as suggested by the Examiner, there would not have been a reasonable expectation that the modified device can emit white light.

Further, when CBP serves as a blue light-emitting material, it emits blue light without energy transfer. Such use of CBP will render unsatisfactory Baldo's intended purpose of obtaining efficient transfer by using CBP. For this reason, Applicants respectfully submit that one of ordinary skill in the art would not have been motivated to modify Baldo by using CBP as a blue light-emitting material.

The Examiner indicated that in Forrest's device (Example 1), green and blue-light emitting materials are contained in one light-emitting layer while red and blue-light emitting materials are contained in a second light-emitting layer. However, in Forrest et al., Ir(ppy)₃ was used as a sensitizer/ISC agent in Example 1. Forrest et al. describes a separate intersystem

RESPONSE UNDER 37 C.F.R. § 1.116

U.S. Appln. No.: 09/845,356

Attorney Docket No.: Q64324

crossing ("ISC") molecule which operates to enhance the efficiency of the emission (c.12, 1.20-22) selected from the group of phosphorescent organometallic complexes (c.12, 1.63-64). That is, the use of Ir(ppy)₃ in Forrest et al. is different from the use of Ir(ppy)₃ as a red light-emitting material as proposed by the Examiner.

Further, when Ir(ppy)₃ serves as a red light-emitting material, it emits red light without sensitization, which would render unsatisfactory Forrest's intended purpose of enhancing the efficiency of the emission by DCM2 (c.11, 1.55-60) using Ir(ppy)₃. For this reason, Applicants respectfully submit that one of ordinary skill in the art would not have been motivated to modify Forrest's device by using Ir(ppy)₃ as a red light-emitting material.

The Examiner further asserts that the selection of suitable and optimum combinations of red, green and blue light-emitting materials from known materials in order to achieve white light would have been within the level of ordinary skill of a worker in the art at the time of the invention as a matter of routine experimentation.

Applicants respectfully disagree. As mentioned above, modifications to both Baldo et al. or Forrest et al. as proposed by the Examiner would render their inventions unsatisfactory for its intended purposes. Applicant does not believe the selection of suitable and optimum combinations of red, green and blue light-emitting materials could be carried out routinely by persons of ordinary skill in the art.

In view of the foregoing reasons, Applicant respectfully submits that the present claims are not obvious over the cited references and the rejection should be withdrawn.

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In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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